CLAIMS:

5 What is claimed is:

1. A method of dynamically re-partitioning a partitioned computer system in response to workloads, each partition of the partitioned computer system having a

10 plurality of resources, the method comprising the steps of:

determining whether a workload on a resource in a partition exceeds a maximum threshold; and

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automatically allocating a similar resource to the partition if it is determined that the workload exceeds the maximum threshold.

20 2. The method of Claim 1 wherein the similar resource is a resource that has not been allocated to any partition.

3. The method of Claim 2 wherein the similar resource is de-allocated from the partition after the workload has

25 decreased to a minimum threshold.

4. The method of Claim 1 wherein the similar resource is one of a plurality of similar resources that are allocated to another partition having a workload within

30 a particular threshold.

5. The method of Claim 4 wherein the similar resource is de-allocated from the partition and re-assigned to the other partition after the workload has decreased to a minimum threshold.

6. A method of dynamically re-partitioning a partitioned computer system in response to workloads, each partition of the partitioned computer system having a plurality of resources, the method comprising the steps of:

creating a workload profile for each partition, the profile having a workload and a workload time schedule; and

automatically allocating additional resources to a partition before the workload is to occur if the workload on the resources originally assigned to the partition is to exceed a maximum threshold.

7. The method of Claim 6 wherein one of the resources is a processor.

8. The method of Claim 7 wherein another one of the resources is memory space.

9. The method of Claim 8 wherein a further of the resources is an I/O slot.

10. The method of Claim 9 wherein the additional resources are not assigned to any partition.

11. The method of Claim 10 wherein the additional resources are de-allocated from the partition after the workload has decreased to a minimum threshold.

5   12. The method of Claim 9 wherein the additional resources are part a plurality of similar resources that are allocated to one or more other partitions having a scheduled workload that does not exceed a particular threshold.

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13. The method of Claim 12 wherein the additional resources are de-allocated from the partition and re-assigned to the one or more partitions after the workload has decreased to a minimum threshold.

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14. A computer program product on a computer readable medium for dynamically re-partitioning a partitioned computer system in response to workloads, each partition of the partitioned computer system having a

20   plurality of resources, the computer program product comprising:

code means for determining whether a workload on a resource in a partition exceeds a maximum threshold;

25   and

code means for automatically allocating a similar resource to the partition if it is determined that the workload exceeds the maximum threshold.

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15. The computer program product of Claim 14 wherein the similar resource is a resource that has not been allocated to any partition.

5   16. The computer program product of Claim 15 wherein the similar resource is de-allocated from the partition after the workload has decreased to a minimum threshold.

10   17. The computer program product of Claim 14 wherein the similar resource is one of a plurality of similar resources that are allocated to another partition having a workload within a particular threshold.

15   18. The computer program product of Claim 17 wherein the similar resource is de-allocated from the partition and re-assigned to the other partition after the workload has decreased to a minimum threshold.

20   19. A computer program product on a computer readable medium for dynamically re-partitioning a partitioned computer system in response to workloads, each partition of the partitioned computer system having a plurality of resources, the computer program product
25   comprising:

code means for creating a workload profile for each partition, the profile having a workload and a workload time schedule; and

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code means for automatically allocating additional resources to a partition before the workload is to

occur if the workload on the resources originally assigned to the partition is to exceed a maximum threshold.

5   20.   The computer program product of Claim 19 wherein one of the resources is a processor.

21.   The computer program product of Claim 20 wherein another one of the resources is memory space.

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22.   The computer program product of Claim 21 wherein a further of the resources is an I/O slot.

23.   The computer program product of Claim 22 wherein the
15   additional resources are not assigned to any partition.

24.   The computer program product of Claim 23 wherein the additional resources are de-allocated from the partition after the workload has decreased to a minimum
20   threshold.

25.   The computer program product of Claim 22 wherein the additional resources are part a plurality of similar resources that are allocated to one or more other
25   partitions having a scheduled workload that does not exceed a particular threshold.

26.   The computer program product of Claim 25 wherein the additional resources are de-allocated from the
30   partition and re-assigned to the one or more partitions after the workload has decreased to a minimum threshold.

27. An apparatus for dynamically re-partitioning a partitioned computer system in response to workloads, each partition of the partitioned computer system having a plurality of resources, the apparatus comprising:

means for determining whether a workload on a resource in a partition exceeds a maximum threshold; and

means for automatically allocating a similar resource to the partition if it is determined that the workload exceeds the maximum threshold.

28. The apparatus of Claim 27 wherein the similar resource is a resource that has not been allocated to any partition.

29. The apparatus of Claim 28 wherein the similar resource is de-allocated from the partition after the workload has decreased to a minimum threshold.

30. The apparatus of Claim 27 wherein the similar resource is one of a plurality of similar resources that are allocated to another partition having a workload within a particular threshold.

31. The apparatus of Claim 30 wherein the similar resource is de-allocated from the partition and re-assigned to the other partition after the workload has decreased to a minimum threshold.

32. An apparatus for dynamically re-partitioning a partitioned computer system in response to workloads, each partition of the partitioned computer system having a plurality of resources, the apparatus comprising:

means for creating a workload profile for each partition, the profile having a workload and a workload time schedule; and

means for automatically allocating additional resources to a partition before the workload is to occur if the workload on the resources originally assigned to the partition is to exceed a maximum threshold.

33. The apparatus of Claim 32 wherein one of the resources is a processor.

34. The apparatus of Claim 33 wherein another one of the resources is memory space.

35. The apparatus of Claim 34 wherein a further of the resources is an I/O slot.

36. The apparatus of Claim 35 wherein the additional resources are not assigned to any partition.

37. The apparatus of Claim 36 wherein the additional resources are de-allocated from the partition after the workload has decreased to a minimum threshold.

38. The apparatus of Claim 35 wherein the additional resources are part a plurality of similar resources that are allocated to one or more other partitions having a scheduled workload that does not exceed a particular threshold.

39. The apparatus of Claim 38 wherein the additional resources are de-allocated from the partition and re-assigned to the one or more partitions after the workload has decreased to a minimum threshold.

40. A computer system that is partitioned and having code data for dynamically re-partitioning itself in response to workloads, each partition of the partitioned computer system having a plurality of resources, the computer system comprising:

at least one storage device for storing the code data; and

at least one processor for processing the code data to determine whether a workload on a resource in a partition exceeds a maximum threshold, and to automatically allocate a similar resource to the partition if it is determined that the workload exceeds the maximum threshold.

41. The computer system of Claim 40 wherein the similar resource is a resource that has not been allocated to any partition.

42. The computer system of Claim 41 wherein the similar resource is de-allocated from the partition after the workload has decreased to a minimum threshold.

5 43. The computer system of Claim 40 wherein the similar resource is one of a plurality of similar resources that are allocated to another partition having a workload within a particular threshold.

10 44. The computer system of Claim 43 wherein the similar resource is de-allocated from the partition and re-assigned to the other partition after the workload has decreased to a minimum threshold.

15 45. A computer system that is partitioned into a plurality of partitions, the computer system having code data for dynamically re-partitioning itself in response to workloads, each partition of the partitioned computer system having a plurality of resources, the computer

20 system comprising:

at least one storage device for storing the code data; and

25 at least one processor for processing the code data to create a workload profile for each partition, the profile having a workload and a workload time schedule and to automatically allocate additional resources to a partition before the workload is to occur if the

30 workload on the resources originally assigned to the partition is to exceed a maximum threshold.

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46. The computer system of Claim 45 wherein one of the resources is a processor.

47. The computer system of Claim 46 wherein another one of the resources is memory space.

48. The computer system of Claim 47 wherein a further of the resources is an I/O slot.

49. The computer system of Claim 48 wherein the additional resources are not assigned to any partition.

50. The computer system of Claim 49 wherein the additional resources are de-allocated from the partition after the workload has decreased to a minimum threshold.

51. The computer system of Claim 48 wherein the additional resources are part a plurality of similar resources that are allocated to one or more other partitions having a scheduled workload that does not exceed a particular threshold.

52. The computer system of Claim 51 wherein the additional resources are de-allocated from the partition and re-assigned to the one or more partitions after the workload has decreased to a minimum threshold.